

January-17-12 11:55:28 AM

78936

~~PRELIMINARY ISSUE~~

Page 1

N900040100

Setup Start *NS1*

Stop *NS2*

Stop *NS2*

Start Date: 17/01/2012 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 31/01/2012 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Approvals: Process Plan: M.L.J. Date: 12/01/17

Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

**Insp.
Stamp**

Revision Nbr.

D3990

100

100

Waterjet

FLOW CNC Waterjet

Memo

Cut Blank as per File d3990-1-blank

110

110

HAAS 1

HAAS CNC vertical machine #1

Memo

Machine as per Folio FA845

Folio Rev: ~~DEF~~ AA

Dwg Rev: 007

Deburr as per Dwg

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 78936

January-17-12 11:55:28 AM

78936

Page 2

Item ID: D3990-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Cable Guard
 Start Date: 17/01/2012 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 31/01/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:


Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120	QC2- Inspect parts off machine FAI/FAIB	0.00							
120									
QC	Memo	0.00							
Quality Control									

130	QC8- Inspect parts - second check	0.00							
130									
QC	Memo	0.00							
Quality Control									

140	Identify as per dwg & Stock Location: <u>197</u>	0.00							
140									
Packaging	Memo	0.00							
Packaging									

Sizelab to Rev #
 Dwg # 

POSITIVE RECALL
 EFFECTIVE 12.01.17 AUTH u
 RELEASED 6/ DATE 12.01.26
 ASS 12.01.26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

78936

Page 3

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 17/01/2012 **Start Qty:** 1.00 ***1***

Cust Item ID:

Required Date: 31/01/2012 **Req'd Qty:** 1.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Operation Description

Set Up/ Run Hours

Tool ID

Tool #

**Plan
Code**

**Accept
Qty**

Reject
Qty

Reject Number

**Insp.
Stamp**

150

QC21- Final Inspection - Work Order Release

0.00


150

QC

Memo

0.00

Quality Control

12/1/26 

12-01-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January-17-12 11:55:32 AM

Page 1

Work Order ID: 78936

78936

Parent Item: D3990-1

D3990-1

Parent Item Name: Cable Guard

Start Date: 17/01/2012

Required Date: 31/01/2012

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB1750X1000 X4800		Purchased	No			100	sf	0.0000	1.75	1.842105			

MUHMWB1750X1000X4800

UHMW 1.75x1.00x48.00

**

B12-1-17

M120035



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	78936
Description: Cable Guard		Part Number:	D3990-1
Inspection Dwg: D3990	Rev: A	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
20.94	+/-0.030	20.94	✓		Ruler	BC09
11.62	+/-0.030	11.62	✓			
2.89	+/-0.030	2.89	✓		Dial Caliper	BC05
1.75 REF	+/-0.030	1.752	✓			
2.00	+/-0.030	2.002	✓			
18.94	+/-0.030	18.940	✓			BC09
0.5	+/-0.100	.50	✓			BC05
0.65	+/-0.030	.640	✓			
0.88	+/-0.030	.886	✓			
1.31	+/-0.030	1.316	✓			
0.14	+/-0.030	.153	✓			
0.36	+/-0.030	.372	✓			
0.10	+/-0.030	.110	✓			
Ø0.875	+/-0.010	.873	✓			
0.37	+/-0.030	.370	✓			
0.95	+/-0.030	.950	✓			
0.70	+/-0.030	.702	✓			
0.78	+/-0.030	.800	✓			
Ø0.261	+0.006/-0.001	.260	✓			
Ø0.875	+/-0.010	.872	✓			
0.37	+/-0.030	.370	✓			
0.70	+/-0.010	.700	✓			
0.95	+/-0.030	.950	✓			
0.78	+/-0.030	.798	✓			
Ø0.438	+0.006/-0.001	.437	✓			
1.75	+/-0.030	1.757	✓			
0.70	+/-0.030	.702	✓			
0.95	+/-0.030	.950	✓			
0.78	+/-0.030	.797	✓			
R2.0	+/-0.100	2.0	✓			

Measured by: JLR	Audited by: [Signature]	Prototype Approval:	N/A
Date: 12/01/19	Date: 12-01-19	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.11.11	New Issue	KJ [Signature]	[Signature]

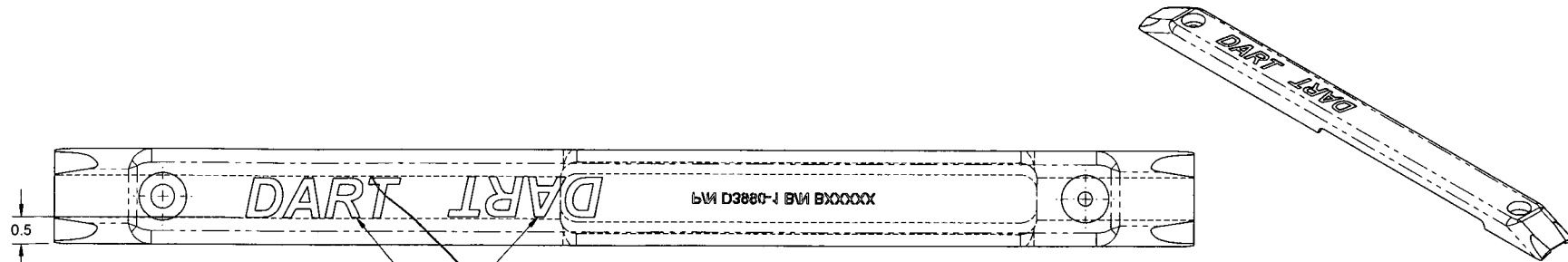
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

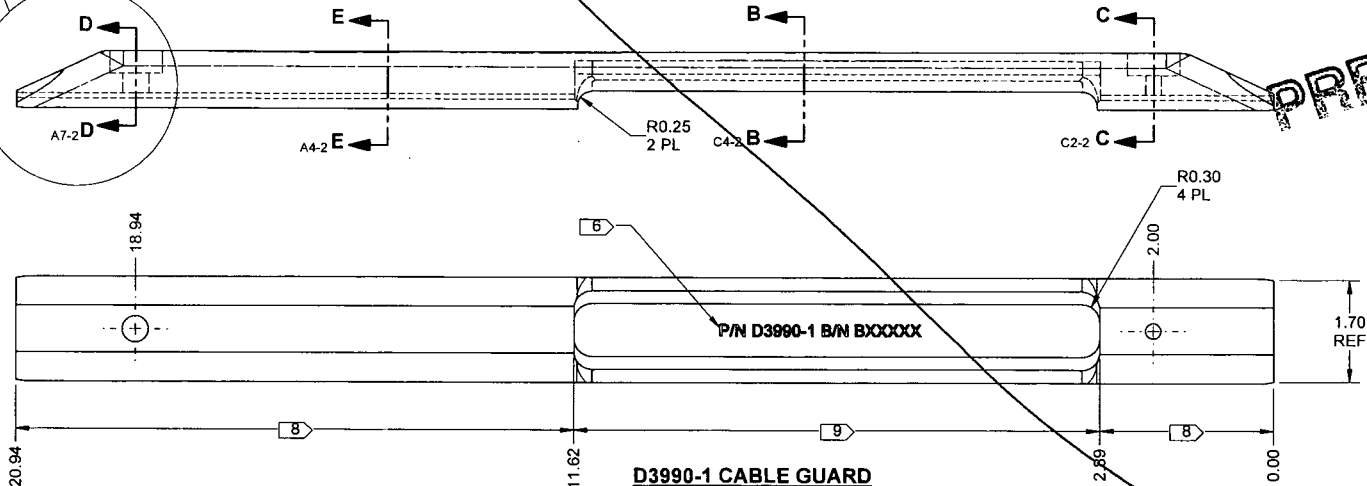
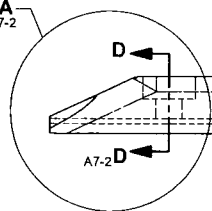
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DETAIL A
C7-2



D3990-1 CABLE GUARD

NOTES:

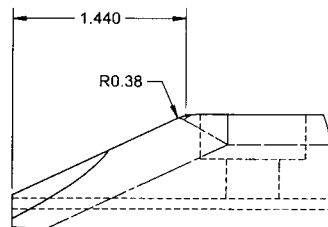
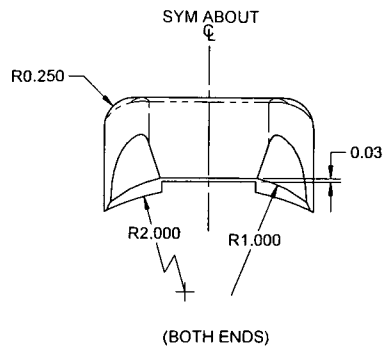
- 1) MATERIAL: MAKE FROM BLACK UHMW
REF DART SPECIFICATION MUHMWB10
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: ENGRAVE WITH DART P/N "D3990-1" AND B/M TO MAX DEPTH OF 0.015 AND MIN TOOL TIP RAD 0.25
- 7) WEIGHT: 0.63 lbs
- 8) MACHINE CONSTANT SECTION E-E, EXCEPT FOR DETAIL A
- 9) MACHINE CONSTANT SECTION B-B, EXCEPT FOR TRANSITIONS
- 10) ENGRAVE "DART" LOGO ON UPPER SIDE TO MAX DEPTH OF 0.015 AND MIN TOOL TIP RAD 0.25, 2 PL

PC2	SHT 2 ZONE D5, R0.38 WAS 0.25.	AJS	12.01.12
PC1	SHT 2 ZONE C7, ENDS CHANGED.	AJS	12.01.09
B	SEE SECTION E-E, ZONE B4-2 0.25 RAD ADDED.	AJS	11.11.10
A	NEW ISSUE	HS	09.08.28
REV.	DESCRIPTION	BY	DATE
DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. PC2
MFG. APPR.		D3990	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CABLE GUARD	NTS
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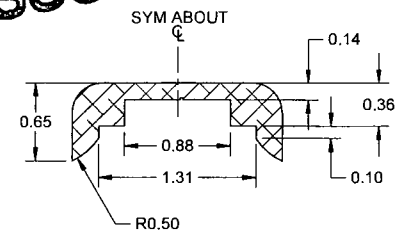
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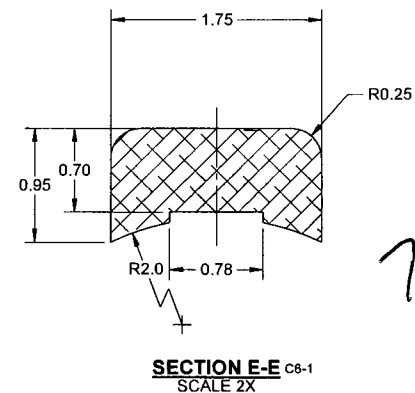
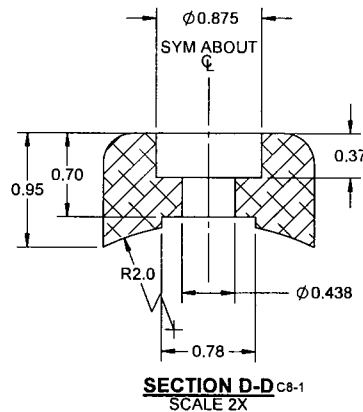
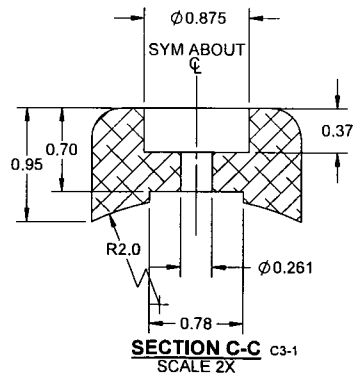
**PRELIMINARY
ISSUE**



DETAIL A C8-1
SCALE 2X
(BOTH ENDS)

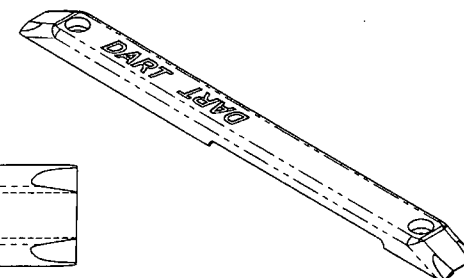
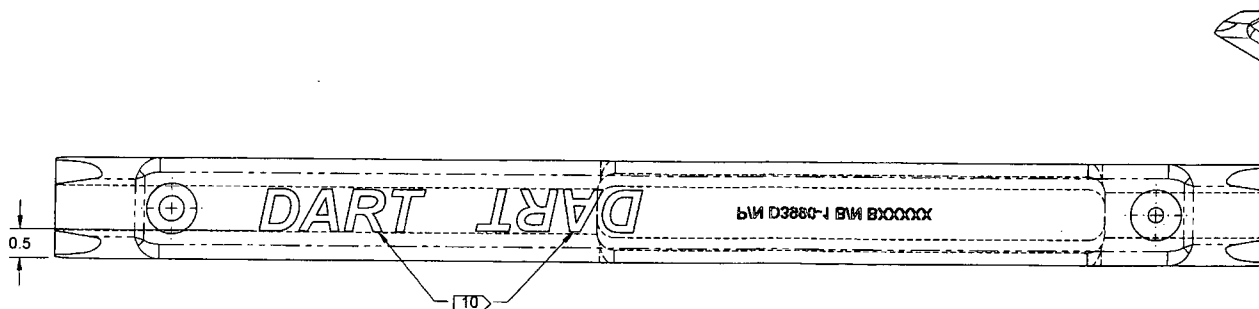


SECTION B-B C5-1
SCALE 2X

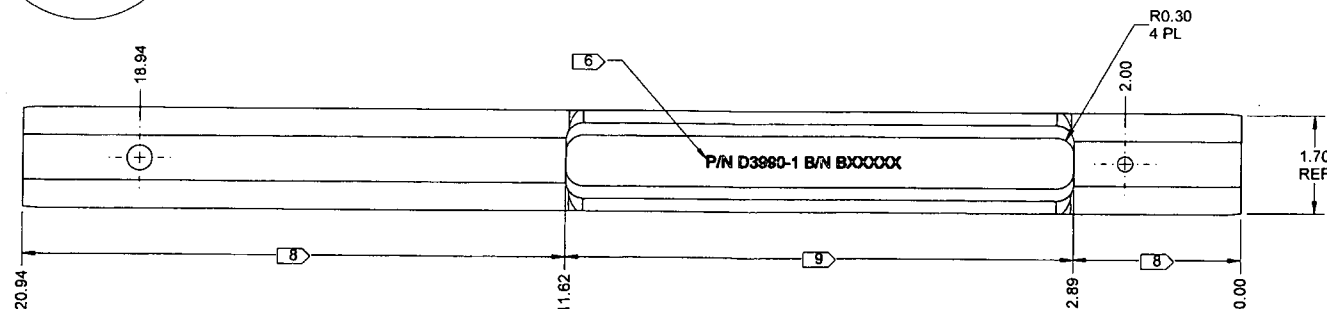
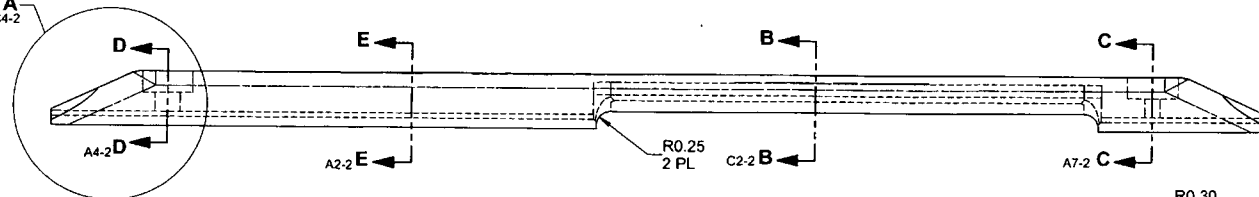


78936

DESIGN	HS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. PC2
MFG. APPR.		D3990	SHEET 2 OF 2
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DE APPR.		CABLE GUARD	NTS
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DETAIL A
C4-2



D3990-1 CABLE GUARD

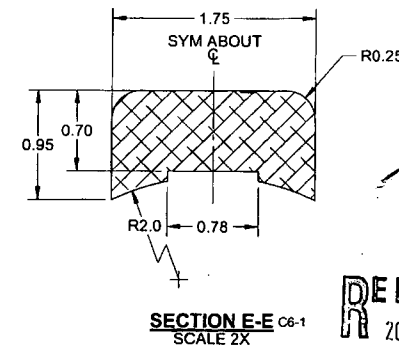
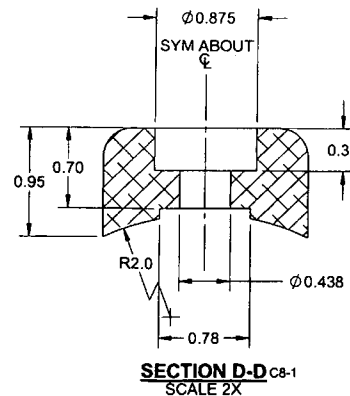
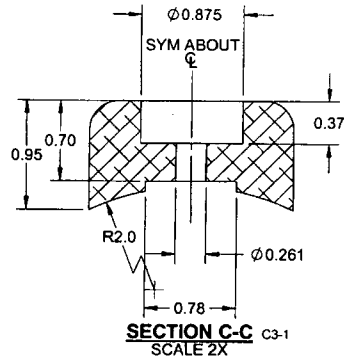
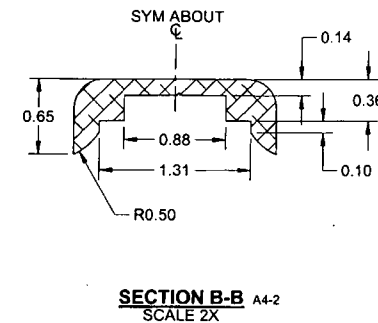
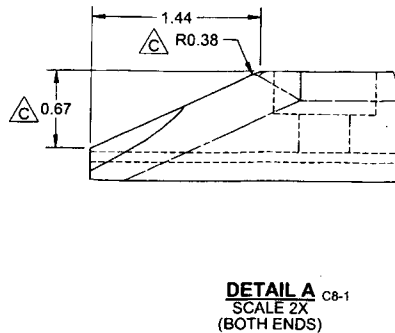
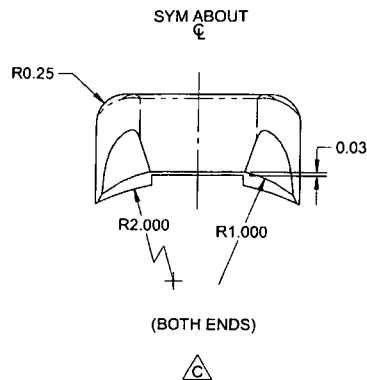
NOTES:

- 1) MATERIAL: MAKE FROM BLACK UHMW
REF DART SPECIFICATION MUHMWB10
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
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- 7) WEIGHT: 0.63 lbs
- 8) MACHINE CONSTANT SECTION E-E, EXCEPT FOR DETAIL A
- 9) MACHINE CONSTANT SECTION B-B, EXCEPT FOR TRANSITIONS
- 10) ENGRAVE "DART" LOGO ON UPPER SIDE TO MAX DEPTH OF 0.015 AND MIN TOOL TIP RAD 0.25, 2 PL
- 11) BLEND OUT ALL TOOL MARKS AFTER MACHINING

w/078936

C	SEE SHT 2 DETAIL A. FILLETS LEADING AND TRAILING EDGE OF PART BLENDED FOR SMOOTH TRANSITION. NOTE 11 ADDED.	AJS	12.01.23
B	SEE SECTION E-E, ZONE B4-2 0.25 RAD ADDED.	AJS	11.11.10
A	NEW ISSUE	HS	09.08.28
REV.	DESCRIPTION	BY	DATE
DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3990 SHEET 1 OF 2 TITLE CABLE GUARD SCALE NTS COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DRAWN	AJS		
CHECKED	<i>14</i>		
MFG. APPR.	<i>21</i>		
APPROVED	<i>14</i>		
DE APPR.	<i>14</i>		
DATE	12.01.23		

RELEASE
2012-01-24



78936
RELEASED
2012-01-24

DESIGN	HS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3990	SHEET 2 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CABLE GUARD	NTS
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